

Figure 1. Proposed pathways to vanillin in cell cultures of *Vanilla planifolia*.

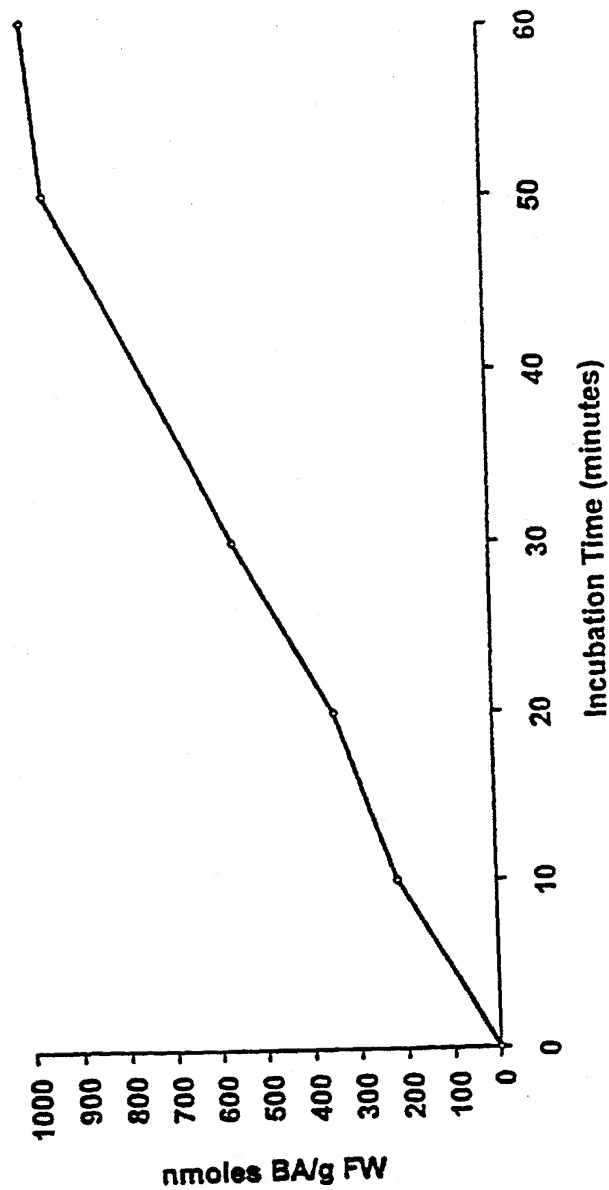


FIGURE 2

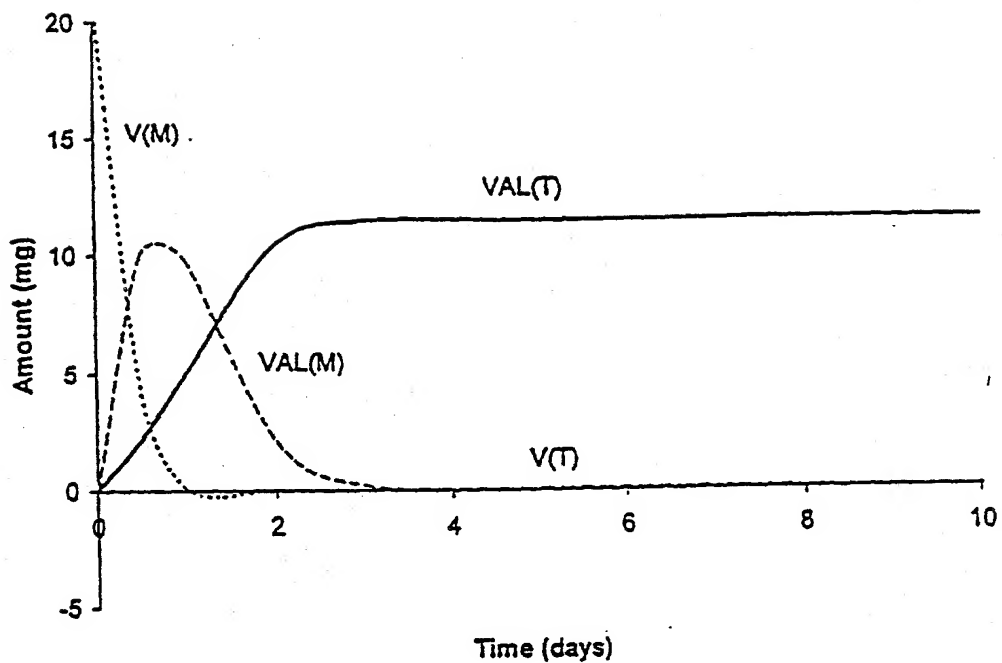


FIGURE 3

FIGURE 4

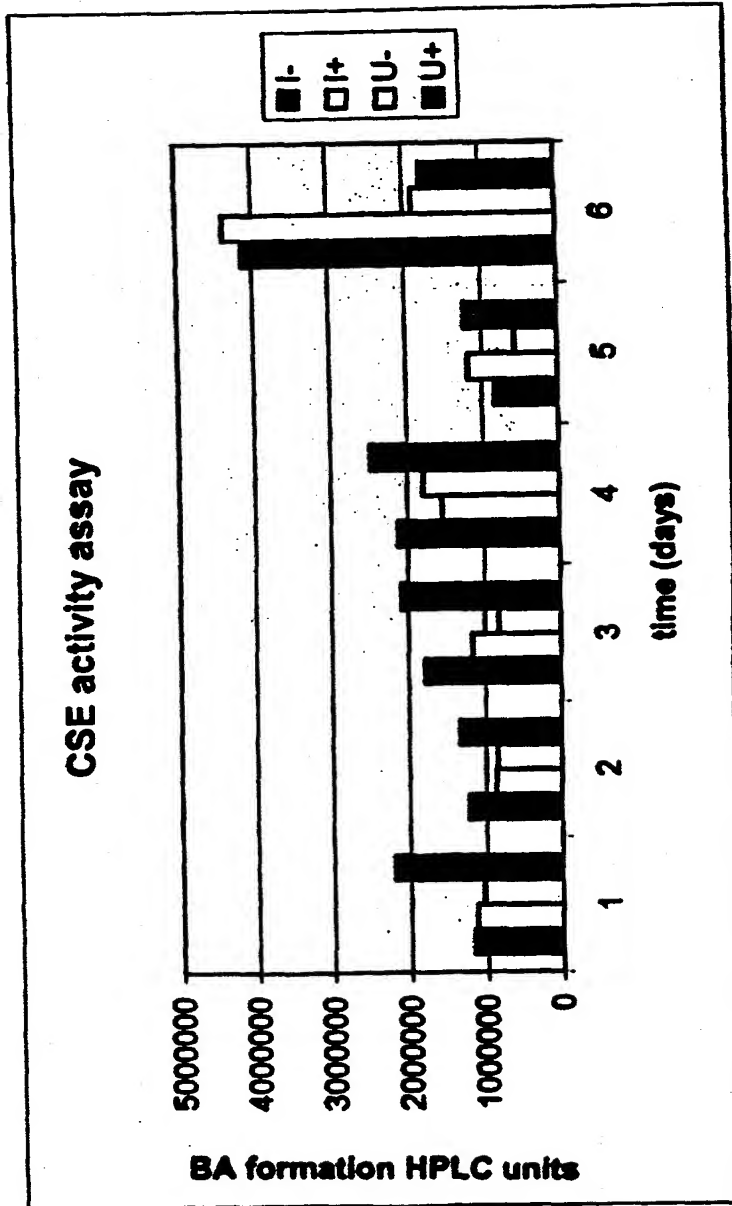


FIGURE 5

Vacuole sorting signal

Cleavage site

FIGURE 6b

Cys active site

191	Q	Q	L	V	D	C	A	G	A	F	M	N	T	G	C	M	G	G	L	P	S	Q	A	F	E	Y	I	K	S	M	G	G	L	D	T	E	K	A	Y	P	AF233883.1.pro
192	Q	Q	L	V	D	C	A	G	A	F	M	N	T	G	C	M	G	G	L	P	S	Q	A	F	E	Y	I	K	S	M	G	G	L	D	T	E	K	A	Y	P	ALZU_NORVU.pro
193	Q	Q	L	V	D	C	A	G	A	F	M	N	T	G	C	M	G	G	L	P	S	Q	A	F	E	Y	I	K	S	M	G	G	L	D	T	E	K	A	Y	P	BA95501.1.pro
194	Q	Q	L	V	D	C	A	G	A	F	M	N	T	G	C	M	G	G	L	P	S	Q	A	F	E	Y	I	K	S	M	G	G	L	D	T	E	K	A	Y	P	CA68192.1.pro
195	Q	Q	L	V	D	C	A	G	A	F	M	N	T	G	C	M	G	G	L	P	S	Q	A	F	E	Y	I	K	S	M	G	G	L	D	T	E	K	A	Y	P	CT52_MAL122.pro
196	Q	Q	L	V	D	C	A	G	A	F	M	N	T	G	C	M	G	G	L	P	S	Q	A	F	E	Y	I	K	S	M	G	G	L	D	T	E	K	A	Y	P	OR1C_OR19A.pro
197	Q	Q	L	V	D	C	A	G	A	F	M	N	T	G	C	M	G	G	L	P	S	Q	A	F	E	Y	I	K	S	M	G	G	L	D	T	E	K	A	Y	P	CSE_ORF_with_G_prot.pro
231	Y	T	G	K	D	E	Y	C	K	F	S	A	E	M	V	G	V	Q	V	L	M	S	V	M	I	T	L	G	A	E	D	E	L	K	M	A	V	G	L	V	AF233883.1.pro
232	Y	T	G	K	D	E	Y	C	K	F	S	A	E	M	V	G	V	Q	V	L	M	S	V	M	I	T	L	G	A	E	D	E	L	K	M	A	V	G	L	V	ALZU_NORVU.pro
233	Y	T	G	K	D	E	Y	C	K	F	S	A	E	M	V	G	V	Q	V	L	M	S	V	M	I	T	L	G	A	E	D	E	L	K	M	A	V	G	L	V	BA95501.1.pro
234	Y	T	G	K	D	E	Y	C	K	F	S	A	E	M	V	G	V	Q	V	L	M	S	V	M	I	T	L	G	A	E	D	E	L	K	M	A	V	G	L	V	CA68192.1.pro
235	Y	T	G	K	D	E	Y	C	K	F	S	A	E	M	V	G	V	Q	V	L	M	S	V	M	I	T	L	G	A	E	D	E	L	K	M	A	V	G	L	V	CT52_MAL122.pro
236	Y	T	G	K	D	E	Y	C	K	F	S	A	E	M	V	G	V	Q	V	L	M	S	V	M	I	T	L	G	A	E	D	E	L	K	M	A	V	G	L	V	OR1C_OR19A.pro
237	Y	T	G	K	D	E	Y	C	K	F	S	A	E	M	V	G	V	Q	V	L	M	S	V	M	I	T	L	G	A	E	D	E	L	K	M	A	V	G	L	V	CSE_ORF_with_G_prot.pro
271	R	P	V	S	I	A	F	E	V	I	H	S	F	R	L	Y	K	S	G	V	Y	T	D	S	M	C	G	S	T	P	M	D	V	N	E	A	L	A	V	AF233883.1.pro	
272	R	P	V	S	I	A	F	E	V	I	H	S	F	R	L	Y	K	S	G	V	Y	T	D	S	M	C	G	S	T	P	M	D	V	N	E	A	L	A	V	ALZU_NORVU.pro	
273	R	P	V	S	I	A	F	E	V	I	H	S	F	R	L	Y	K	S	G	V	Y	T	D	S	M	C	G	S	T	P	M	D	V	N	E	A	L	A	V	BA95501.1.pro	
274	R	P	V	S	I	A	F	E	V	I	H	S	F	R	L	Y	K	S	G	V	Y	T	D	S	M	C	G	S	T	P	M	D	V	N	E	A	L	A	V	CA68192.1.pro	
275	R	P	V	S	I	A	F	E	V	I	H	S	F	R	L	Y	K	S	G	V	Y	T	D	S	M	C	G	S	T	P	M	D	V	N	E	A	L	A	V	CT52_MAL122.pro	
276	R	P	V	S	I	A	F	E	V	I	H	S	F	R	L	Y	K	S	G	V	Y	T	D	S	M	C	G	S	T	P	M	D	V	N	E	A	L	A	V	OR1C_OR19A.pro	
277	R	P	V	S	I	A	F	E	V	I	H	S	F	R	L	Y	K	S	G	V	Y	T	D	S	M	C	G	S	T	P	M	D	V	N	E	A	L	A	V	CSE_ORF_with_G_prot.pro	
311	G	Y	G	V	E	D	G	V	P	Y	W	L	I	K	N	S	W	G	A	D	W	G	D	K	G	Y	F	K	M	E	M	G	K	N	M	C	G	I	A	T	AF233883.1.pro
312	G	Y	G	V	E	D	G	V	P	Y	W	L	I	K	N	S	W	G	A	D	W	G	D	K	G	Y	F	K	M	E	M	G	K	N	M	C	G	I	A	T	ALZU_NORVU.pro
313	G	Y	G	V	E	D	G	V	P	Y	W	L	I	K	N	S	W	G	A	D	W	G	D	K	G	Y	F	K	M	E	M	G	K	N	M	C	G	I	A	T	BA95501.1.pro
314	G	Y	G	V	E	D	G	V	P	Y	W	L	I	K	N	S	W	G	A	D	W	G	D	K	G	Y	F	K	M	E	M	G	K	N	M	C	G	I	A	T	CA68192.1.pro
315	G	Y	G	V	E	D	G	V	P	Y	W	L	I	K	N	S	W	G	A	D	W	G	D	K	G	Y	F	K	M	E	M	G	K	N	M	C	G	I	A	T	CT52_MAL122.pro
316	G	Y	G	V	E	D	G	V	P	Y	W	L	I	K	N	S	W	G	A	D	W	G	D	K	G	Y	F	K	M	E	M	G	K	N	M	C	G	I	A	T	OR1C_OR19A.pro
317	G	Y	G	V	E	D	G	V	P	Y	W	L	I	K	N	S	W	G	A	D	W	G	D	K	G	Y	F	K	M	E	M	G	K	N	M	C	G	I	A	T	CSE_ORF_with_G_prot.pro
351	C	A	S	Y	P	I	V	-	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	AF233883.1.pro			
352	C	A	S	Y	P	I	V	-	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ALZU_NORVU.pro			
353	C	A	S	Y	P	I	V	-	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	BA95501.1.pro			
354	C	A	S	Y	P	I	V	-	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	CA68192.1.pro			
355	C	A	S	Y	P	I	V	-	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	CT52_MAL122.pro			
356	C	A	S	Y	P	I	V	-	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	OR1C_OR19A.pro			
357	C	A	S	Y	P	I	V	-	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	CSE_ORF_with_G_prot.pro			

His active site

Asn active site

Vanilla Cysteine Protease - VCysProt

Decorations: #1: Shade (with solid deep red) residues that match the Consensus exactly.

Figure 2: CSE assay with Vanilla embryo culture crude extract after immunoprecipitation

CSE assay with Vanilla embryo culture crude extract after immunoprecipitation

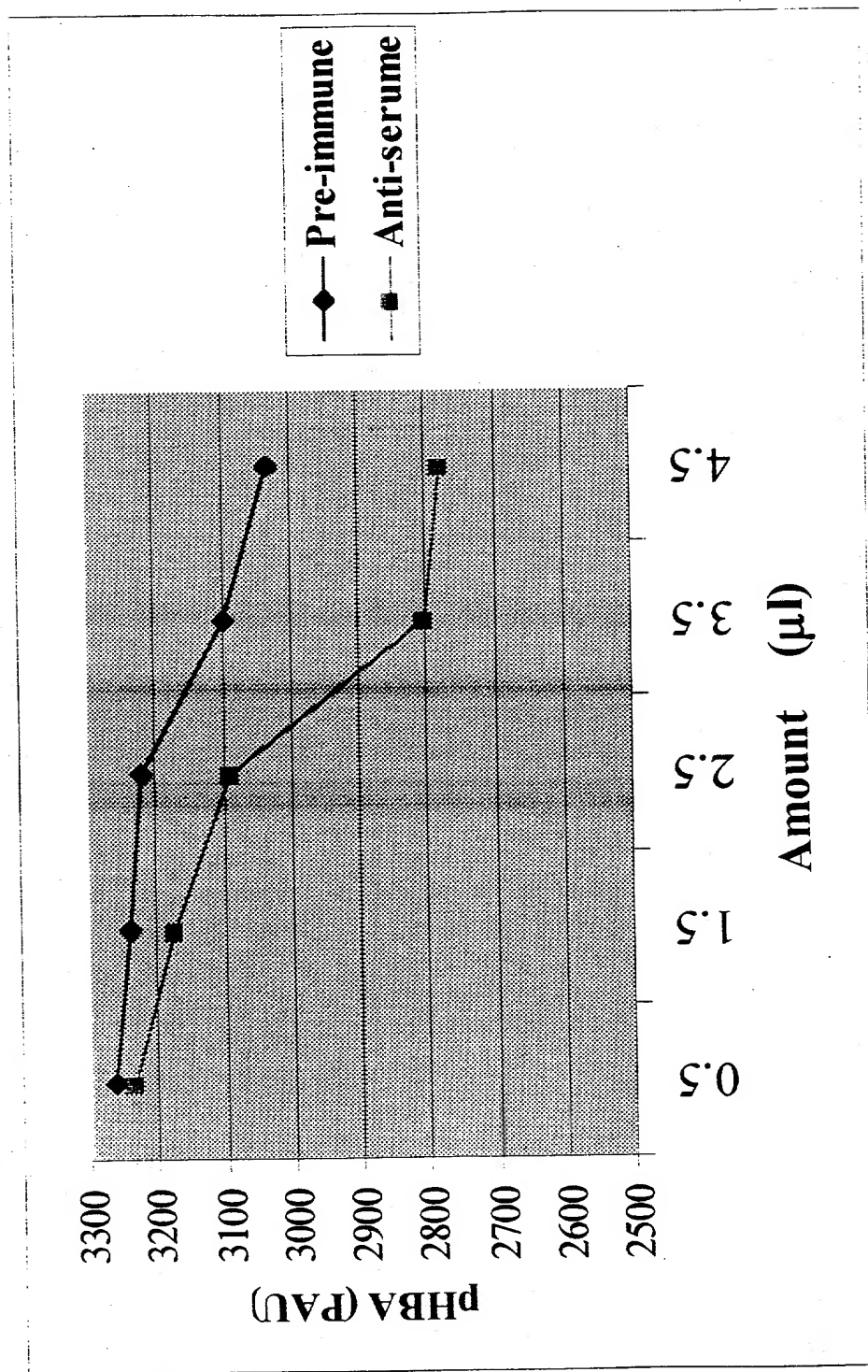


Figure 8

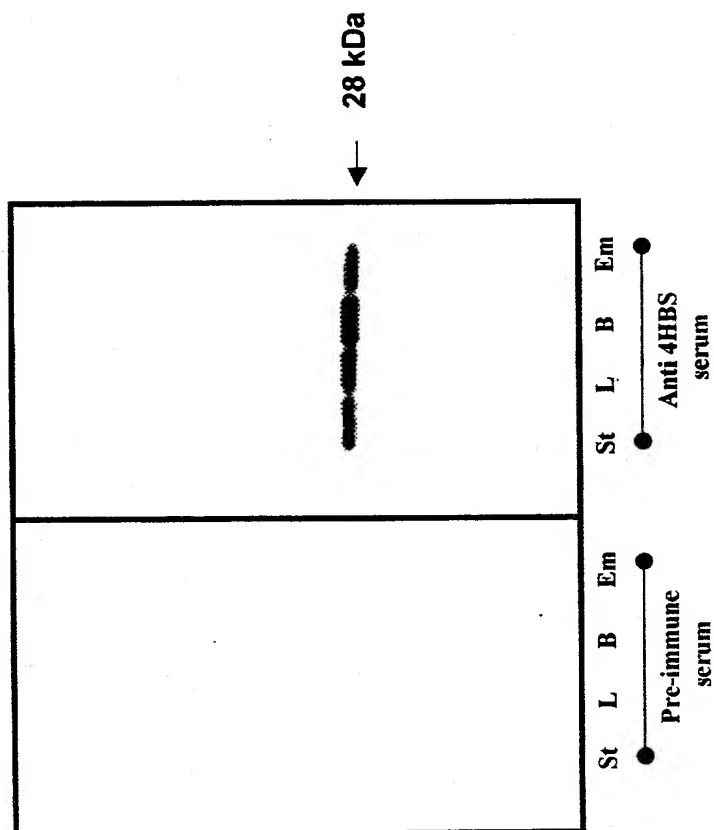
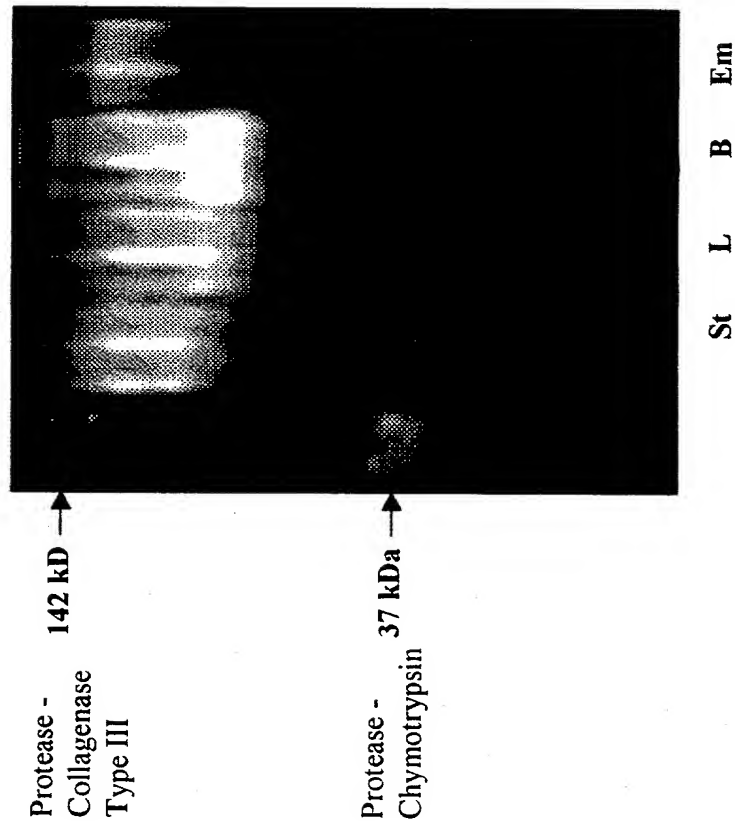


Figure 9



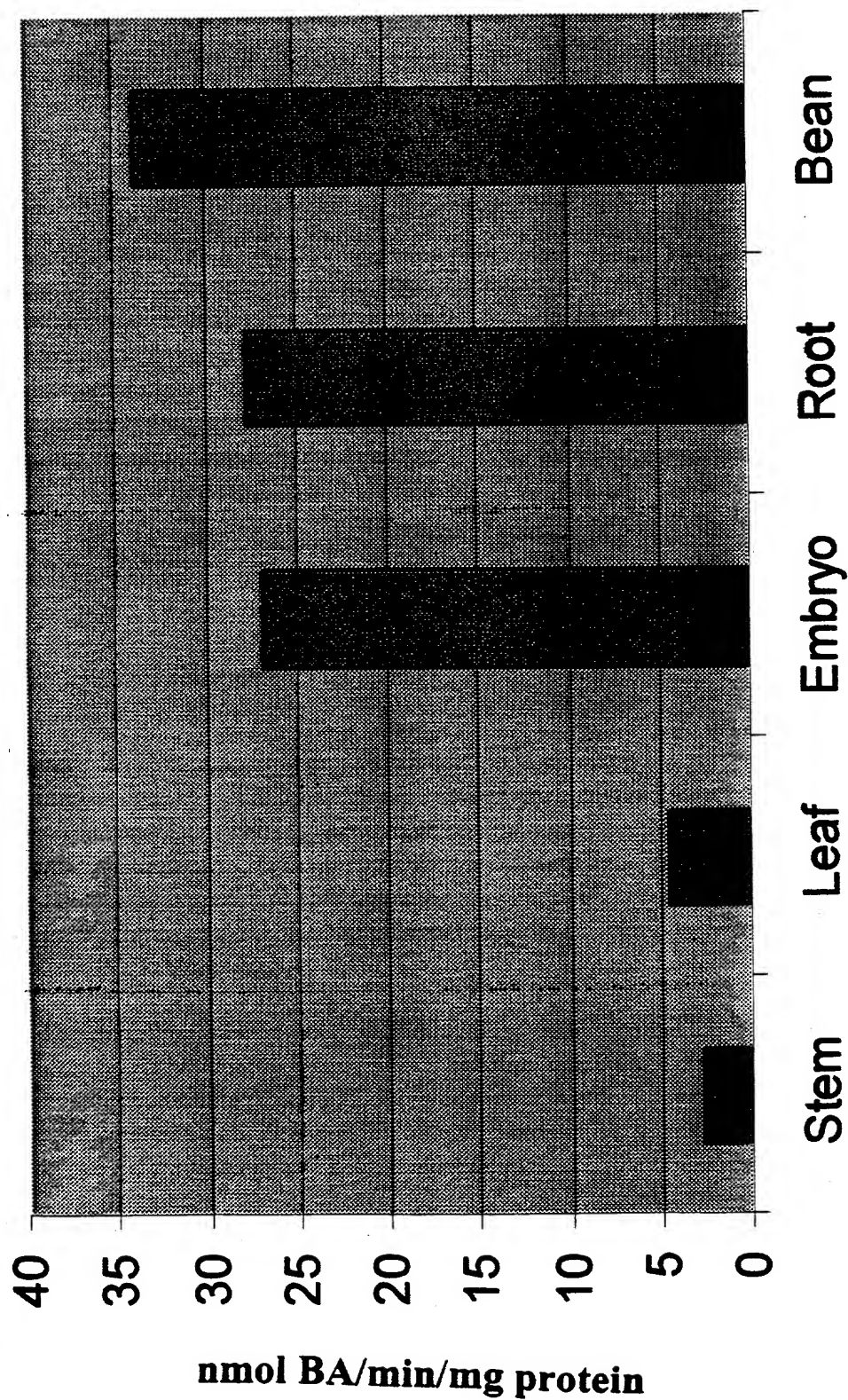


Figure 10